

Exhibit E

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF NEW YORK

TAILORED LIGHTING, INC.,

Plaintiff,

vs.

OSRAM SYLVANIA PRODUCTS, INC.,

Defendant.

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Exhibit F

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF NEW YORK

TAILORED LIGHTING, INC.,

Plaintiff,

-vs-

Civil Action No.
04-CV-6435 MAT

OSRAM SYLVANIA PRODUCTS, INC.,

Defendant.

Examination Before Trial held at the LAW OFFICES OF
HISCOCK & BARCLAY LLP, 2000 HSBC Plaza, Rochester,
New York 14604 on March 14, 2008, commencing at
8:58 a.m.

DEPOSITION OF: Mark D. Fairchild, Ph.D.

REPORTED BY: SINEAD R. WILDER

Executive Reporting Service
28 EAST MAIN STREET, SUITE 101

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1 FAIRCHILD - BANOWIT

2 to measure spectral -- measure the spectral power
3 distribution with a spectroradiometer?

4 A. I don't know how I would define level of skill. It
5 takes some training. I could probably teach my
6 twelve-year-old daughter to do it, so it's possible.
7 I would say a typical undergraduate science student
8 could do it fairly easily, once they're instructed
9 how.

10 Q. What in particular would you need to instruct the
11 person?

12 MR. OROPALLO: Object to the form of
13 the question.

14 Q. You say you'd have to instruct the person how?

15 A. (Nodding in the affirmative.)

16 Q. How would you have to instruct the person how?

17 A. You'd have to familiarize them with just the general
18 operation of the instrument, as far as any software
19 to record the data, how to set up the lamps, how to
20 apply the electrical current and control the power
21 supply to be sure that it was at the right setting
22 and stable, and how to -- if they're performing
23 calibrations themselves -- which aren't always
24 necessary; some instruments are internally
25 calibrated -- then how to set -- do that same

FAIRCHILD - BANOWIT

properly calibrated, wouldn't have a significant effect on the procedure that you would use.

Q. And you said you didn't make the measurements in this case; is that correct?

A. Yes, that's correct.

Q. Who did make the measurements you relied on, the spectral distribution of the --

A. Kevin McGuire.

Q. Anyone else?

A. Not to my knowledge.

Q. Do you know when those measurements were made?

A. No, not specifically.

Q. Were you present during those measurements?

A. No.

Q. Do you know if the -- was the spectroradiometer used to make those measurements?

A. Could you repeat --

Q. Was the spectroradiometer used to make those measurements?

A. Yes.

Q. Do you know if that spectroradiometer was calibrated prior to making those measurements?

A. To my knowledge, it was.

Q. And what's the basis for that knowledge?

1 FAIRCHILD - BANOWIT

2 A. I visited Kevin's facilities, and he showed me the
3 procedures that he followed in the measurements and
4 repeated one or two examples for me, so I could --
5 could observe how the measurements were completed.

6 Q. What procedures did he show you he followed?

7 A. He showed me the instrument. He showed me his
8 standard lamp for calibrating the instrument and how
9 he set that up to do the calibration. And then he
10 showed me an example measurement on one of the
11 Sylvania bulbs -- at least one. I don't recall
12 exactly -- a couple of bulbs, perhaps.

13 Q. Is it necessary to calibrate the spectroradiometer
14 before every measurement?

15 A. No.

16 Q. How often do you have to calibrate the
17 spectroradiometer?

18 A. That could vary from instrument to instrument. The
19 longest case might be a year for some instruments.
20 The most frequent would probably be once a day.

21 Q. What would determine how frequently you have to
22 calibrate the instrument?

23 A. Well, the stability of the instrument would be one
24 thing. It's, to a degree, the choice of the
25 operator.

1 FAIRCHILD - BANOWIT

2 process. And then most likely it wouldn't work
3 anymore, so he wouldn't be able to measure it.

4 Q. Any other ways it might be compromised?

5 MR. OROPALLO: Object to the form of
6 the question.

7 A. Well, with respect to these measurements, I don't
8 think so.

9 Q. Is it possible that Mr. McGuire, in your opinion,
10 scratched the envelope in removing it from the
11 sealed beam enclosure?

12 MR. OROPALLO: Object to the form of
13 the question.

14 A. It certainly could be possible.

15 Q. If the envelope was scratched, would that affect the
16 accuracy of the measurement in the
17 spectroradiometer?

18 MR. OROPALLO: Object to the form of
19 the question.

20 A. It wouldn't affect the accuracy of the measurement.
21 It might change the measurement.

22 Q. How might it change the measurement?

23 A. You would be measuring a different bulb.

24 Q. Did you inspect each of the bulbs that Mr. McGuire
25 measured in the spectroradiometer?

FAIRCHILD - BANOWIT

Sylvania products?

A. I felt comfortable with the data that were presented to me. It's a very expensive and time-consuming process. I didn't think I needed to repeat it myself.

Q. You mentioned that when you'd present the lamp to the instrument, you would run the lamp at an appropriate voltage; is that correct?

A. Yes.

Q. What did you mean by "appropriate voltage"?

A. I would mean a -- generally, we specify it by current rather than voltage, but the two are related. And that would be the -- the voltage or current level that the lamp is designed to operate at.

Q. How would you determine what a lamp's designed to operate at?

A. Normally, that's specified with the lamp itself on the packaging or on the -- you know, if it was a standard lamp, it would be with a certificate that comes with it.

Q. Was the appropriate voltage that -- voltage that was designed -- that the Sylvania products were designed to operate, was that specified on the packaging?

1 FAIRCHILD - BANOWIT

2 Or did you look at the packaging of the
3 Sylvania products?

4 A. Yes, I looked at the packaging.

5 Q. Was the voltage specified?

6 A. I believe so.

7 Q. Do you recall what voltage was specified?

8 A. No.

9 Q. Was there a -- do you recall seeing a certificate
10 with the Sylvania products?

11 A. No, I do not.

12 Q. Was a voltage -- did you see the packaging for each
13 of the Sylvania products that was tested?

14 A. I can't say for certain.

15 Q. Would there be a reason to measure a bulb at
16 multiple voltages?

17 A. There could be a reason. Sometimes bulbs are used
18 at different voltages, and there might also be a
19 range of normal operating conditions.

20 Q. Is that specified on the packaging?

21 A. It might be.

22 Q. Do you recall there being a range of normal
23 conditions specified on the Sylvania packaging?

24 A. I don't recall.

25 Q. Is it your understanding that the Sylvania lamps are

FAIRCHILD - BANOWIT

A. I don't think I was talking about daylight when I said that, but --

Q. Okay.

A. -- the process, yes.

Q. Describe for me what you were talking about at that point.

A. I think I was just saying for any desired color that you wanted to produce or spectral distribution -- and daylight could be one of them -- that if you had the output of a lamp at a given location, and you were going to insert a filter in between, you would do that division to calculate the transmittance distribution or the transmittance functions of that filter.

Q. Is that what's done in the equation here in column 23?

A. It's what's done in the -- the simple configuration that I described, yes.

Q. What do you mean, "the simple configuration"?

A. That you just have light and a flat filter, light going directly through it.

Q. And why is it -- what's the importance of it being a flat filter?

MR. OROPALLO: Object to the form of

1 FAIRCHILD - BANOWIT

2 the question.

3 Q. Is there an importance of it being a flat filter?

4 A. If it weren't, then it's possible that the
5 transmittance properties could be different in
6 different parts of the filter, and that could have
7 an effect on the final result.

8 That's even possible with a flat filter. But a
9 filter that just absorbs light would generally not
10 have that property. It's just a flat -- flat piece
11 of coated glass or something like that.

12 Q. So in the equation you described, would you use all
13 the variables that are shown in column 23?

14 A. Typically, no.

15 Q. What variables would you use?

16 A. Oh, essentially, that's describing a case where N is
17 equal to one. And so I could say yes, I'd use all
18 the variables. But if I said N equals to one, that
19 actually converts one-minus-N into a zero, and then
20 S^* is multiplied by zero, so that goes away, so you
21 wouldn't need it. If you included it, you'd get
22 another answer, so --

23 Q. So you simplified the formula here in that instance?

24 A. Yes.

25 Q. And how would it be simplified?

FAIRCHILD - BANOWIT

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2 A. Well, if N is one, you can remove it from the
3 formula and remove the -- the middle terms and
4 square brackets from $S^{*}(1)$ times one-minus-N; since
5 one-minus-N is zero, that whole term would go away.
6 So it would end up being $D(1)$ divided by $S(1)$, which
7 is what we were discussing in words.

8 Q. So $T(1)$ would be $D(1)$ divided by $S(1)$?

9 A. Yes.

10 Q. And you said that's an instance where N is equal to
11 one; is that correct?

12 A. Yes.

13 Q. Now, did you know that because of the -- your
14 reading of the McGuire patent, that T equals -- $T(1)$
15 equals $D(1)$ over $S(1)$ that you described earlier
16 today?

17 A. That equation, no, not from the patent.

18 Q. Did you know that -- how did you -- what's your
19 basis for knowledge of the -- this formula you
20 described earlier today?

21 A. That's really the definition of transmittance.
22 That's what $T(1)$ is.

23 Q. Was that known prior to 1996?

24 A. Certainly, yes.

25 Q. Now, the formula in column 23 has more terms than

FAIRCHILD - BANOWIT

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2 A. I think so.

3 Q. And how would you determine $S^*(l)$ for a given lamp?

4 A. I think the most practical way would be to do it as
5 a sort of iterative process in designing the lamp,
6 that you would design or build an initial coating,
7 and having access to the distribution of a lamp
8 without a coating, measure it with the setup that
9 you define to be the normal light that you're
10 interested in, and then look at the residual, the
11 difference between what you'd expect from that
12 simple configuration that we were discussing
13 earlier, that it's just a flat filter. That would
14 be a reasonable first approximation, that is, you're
15 just taking a light source, going straight through a
16 flat filter to get a new distribution.

17 In the real world with real lamps, you're not
18 likely to get that, because there's the potential
19 for light going through at other angles and going
20 back to the area you're interested in, or the
21 coating not being exactly what you specified,
22 whatever the cause is. And I would denote that as
23 being the S^* light, the stuff that's not expected
24 from a simple model where all you have is S .

25 Q. How about for -- you described that as being a

1 FAIRCHILD - BANOWIT

2 daylight distribution, that the equation would
3 describe that situation.

4 Q. So in your opinion, if you have a lamp with a --
5 that produces light substantially identical to
6 daylight, within 30 percent from 400 to 700
7 nanometers, and that lamp has a light-producing
8 element that's substantially centrally disposed and
9 emits energy from 200 to 2,000 nanometers, and that
10 lamp has a lamp envelope with a coating, then is it
11 your opinion the equation would be met?

12 A. Yes.

13 Q. In your opinion, is there any situation in which
14 these three elements, the substantially identical to
15 daylight, substantially centrally disposed and the
16 coating, would be met, but the formula would not?

17 MR. OROPALLO: Object to the form of
18 the question.

19 A. I don't think so.

20 Q. And in order to verify your opinion, could we go
21 through the process we just described to determine
22 S, S*, N for a given lamp, plug them back into the
23 equation to determine if your opinion is correct?

24 A. You said could we?

25 Q. Yes.

1 FAIRCHILD - BANOWIT

2 A. Yes.

3 Q. And if we determined, based on what you just
4 described, values for N, S* and S and T, and used
5 the D, which is the 3,500 K that Mr. McGuire
6 provided to you, plugged all those values into the
7 formula in the patent, column 23 of the patent, it's
8 your opinion that formula would be satisfied; is
9 that correct?

10 MR. OROPALLO: Object to the form of
11 the question.

12 A. Yes.

13 MR. BANOWIT: Could we mark this as
14 Exhibit 7.

15 (WHEREUPON FAIRCHILD EXHIBIT NO. 7 - Expert
16 Rebuttal Report of Mark D. Fairchild - WAS MARKED
17 FOR IDENTIFICATION.)

18 Q. Dr. Fairchild, we've been talking about your expert
19 report on infringement?

20 A. Yes.

21 Q. Other than the -- are there any opinions you came to
22 with respect to infringement that are not contained
23 in your expert report?

24 A. I don't think so.

25 Q. Is there any further analysis, further work you

1 FAIRCHILD - BANOWIT

2 the question.

3 A. I would say no.

4 Q. Why not?

5 MR. OROPALLO: Object to the form of
6 the question.

7 A. It's a description of the process needed to design
8 the lamps. Normally transmittance is specified
9 independent of any particular object.

10 Q. Do you understand the invention claimed in the '017
11 patent is a process for making a lamp?

12 MR. OROPALLO: Object to the form of
13 the question.

14 (Witness perusing document.)

15 Q. Do you have an understanding as to what is claimed
16 in claim one of the '017 patent?

17 A. I believe so, yes.

18 Q. It's your understanding that that's a method of
19 making a lamp?

20 MR. OROPALLO: Object to the form of
21 the question.

22 Q. Well, what is your understanding of what is claimed
23 in claim one of the '017 patent?

24 A. I think it claims a description of a lamp to
25 simulate daylight and the procedure for making